

(No Model.)

P. FORSBERG.
SPRING AND AIR CUSHION.

No. 563,225.

Patented June 30, 1896.

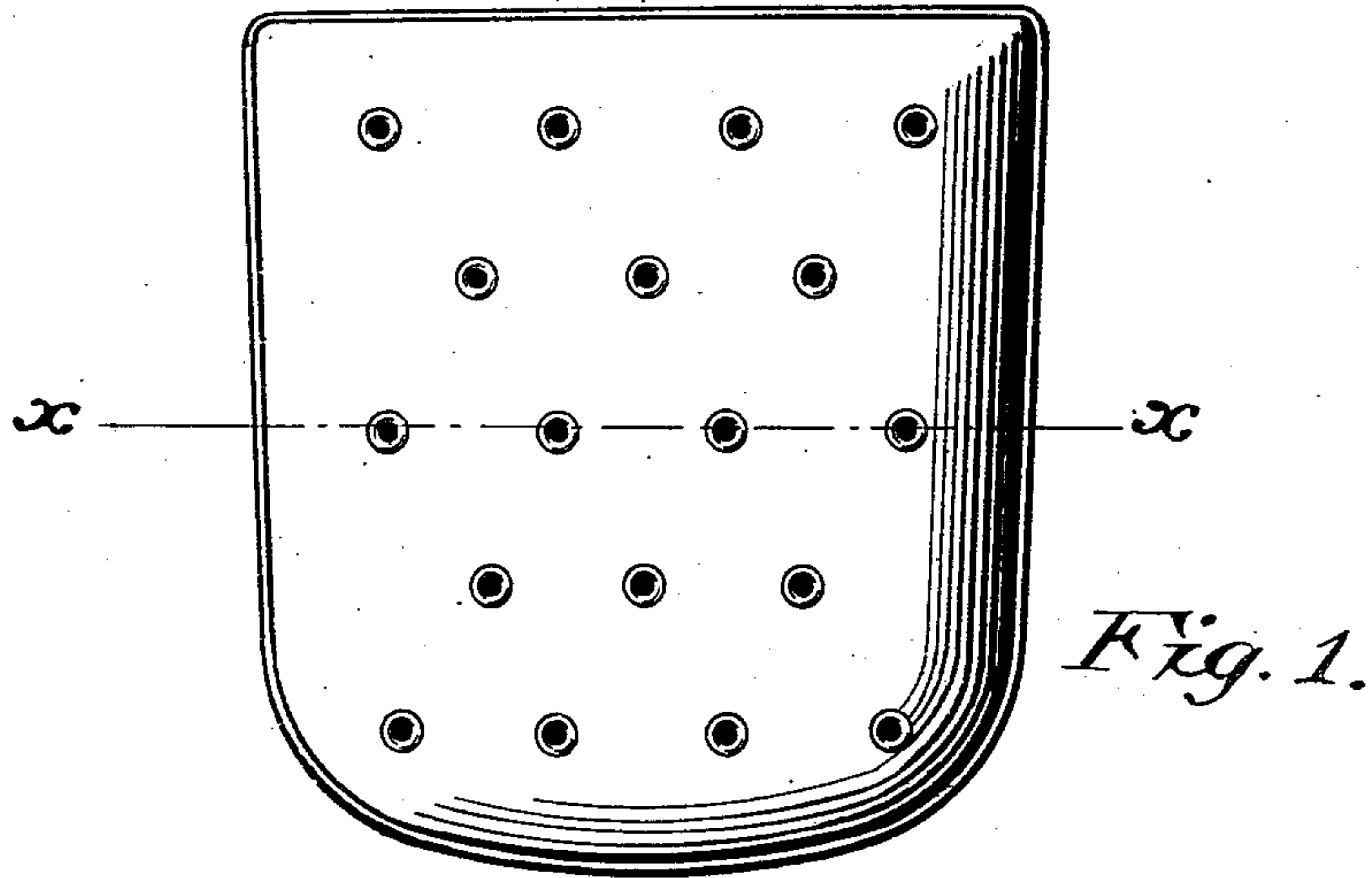
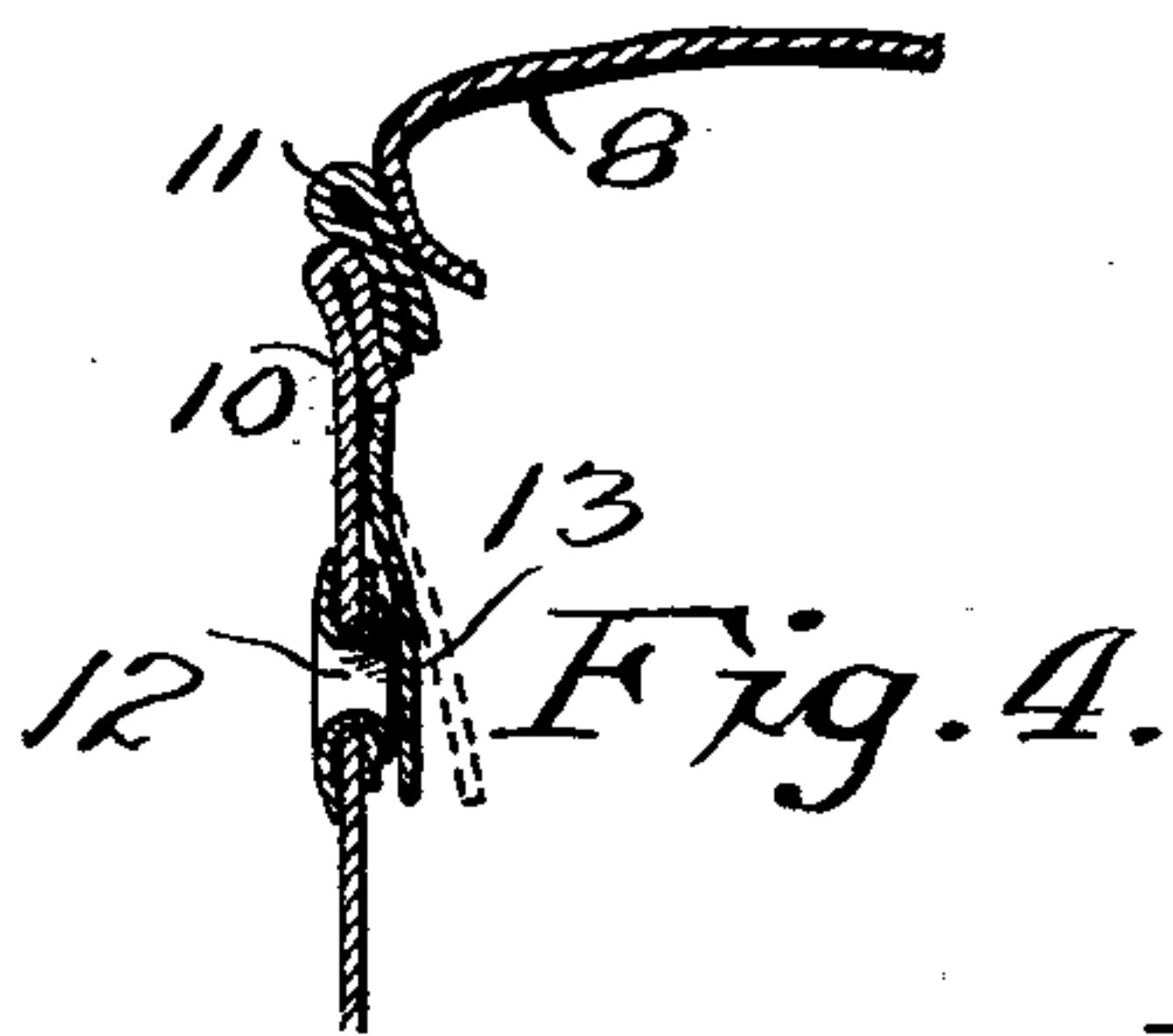
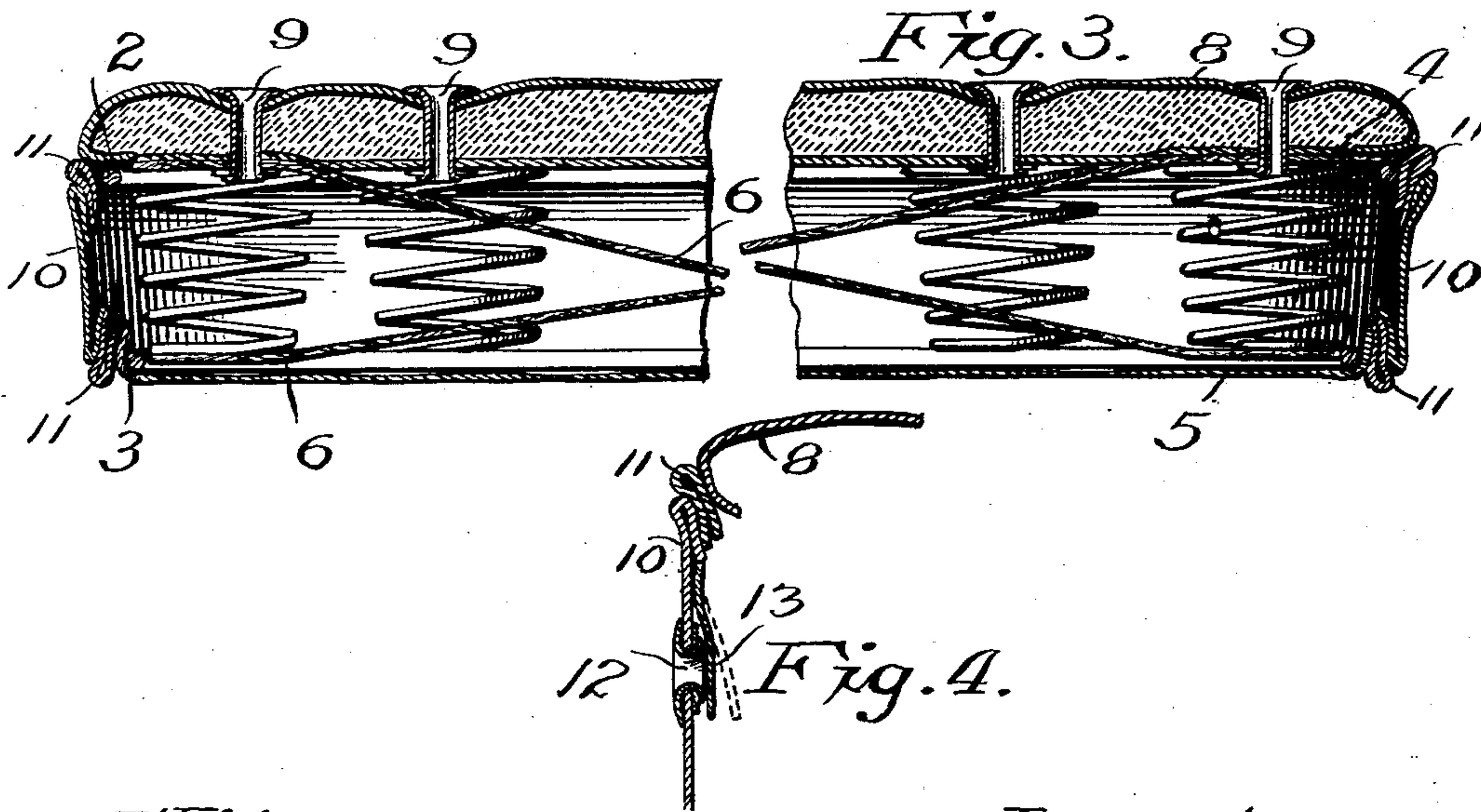
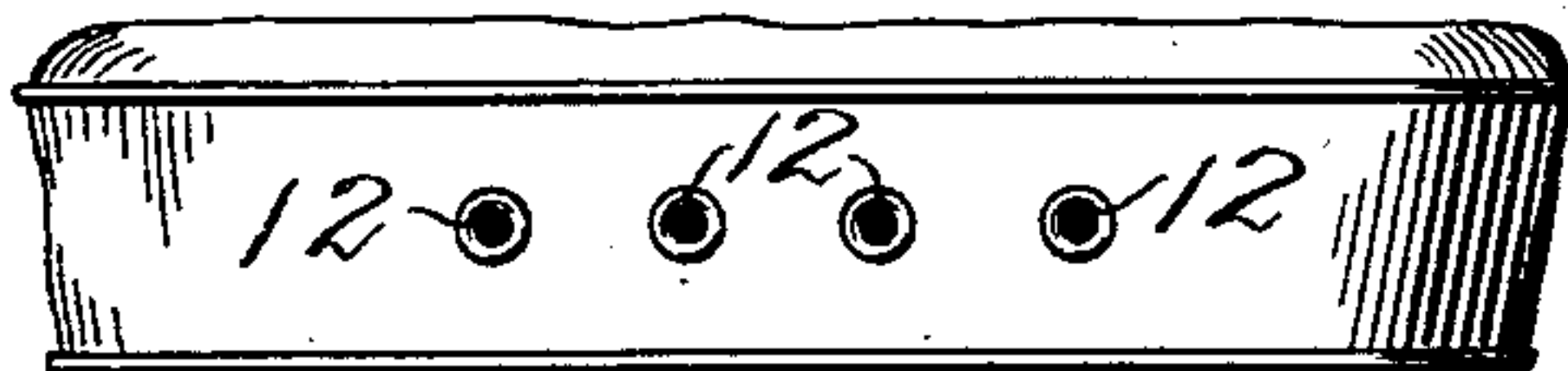


Fig. 2.



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UNITED STATES PATENT OFFICE.

PETER FORSBERG, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF ONE-HALF
TO JOHN RYDBACK, OF SAME PLACE.

SPRING AND AIR CUSHION.

SPECIFICATION forming part of Letters Patent No. 563,225, dated June 30, 1896.

Application filed June 5, 1895. Serial No. 551,732. (No model.)

To all whom it may concern:

Be it known that I, PETER FORSBERG, of the city of Minneapolis, county of Hennepin, State of Minnesota, have invented certain
5 new and useful Improvements in Spring and Air Cushions, of which the following is a specification.

My invention relates to cushions to be used as seat or back cushions for chairs, couches,
10 &c., or for mattresses or any other lines of upholstery; and the object I have in view is to provide a cushion which will present a soft and elastic seating-surface, will be light and durable in construction, and will permit the
15 circulation of air throughout the body of the seat, and when compressed will force the air up through the openings provided in the top thereof.

My invention consists generally in providing a spring cushion or mattress with a series of openings in its top and edge when the cushion is compressed; and, further, my invention consists in various constructions and combinations, all as hereinafter described,
25 and particularly pointed out in the claims.

The invention will be more readily understood by reference to the accompanying drawings, forming part of this specification, in which—

30 Figure 1 is a plan view of a cushion embodying my invention. Fig. 2 is a rear edge view thereof. Fig. 3 is a sectional view on the line $x\ x$ of Fig. 1. Fig. 4 is a sectional view of a portion of the rear edge of the cushion, showing the opening therein and the means
35 for covering the same.

In the drawings, 2 represents the top or upper portion of the frame of the cushion, and 3 represents the lower part. This frame
40 may be constructed of light rods or bars, and the upper part 2 of the frame is covered with a canvas or cloth cover 4, having its edges secured to the rods composing the frame, while the lower portion of the frame is provided with a similar covering 5, which may
45 be of canvas or leather and forms the bottom covering of the cushion. Between the top and bottom coverings I provide a series of spiral springs 5', having their ends secured to the top and bottom covers, respectively, and being supported and held in a vertical posi-

tion by a series of cords or straps, as shown in Fig. 3.

Above the covering 4 and having its edges turned in and secured to the frame 2 is a
55 leather covering or top 8, forming the seating-surface of the cushion. This part 8 may be of leather, plush, or any other suitable material for a cushion-top, and is provided with a series of openings in which are arranged the
60 eyelets 9, having their outer end secured to the leather covering 8 and their inner end to the covering 4, and forming a passage leading from the interior of the cushion to the outside air. The eyelets are much longer
65 than usual in cushions of this description, and a space of considerable size is provided between the inner covering 4 and the outer covering 8, as shown in Fig. 3. This
70 space is filled with hair, tow, or other suitable material.

For covering the sides of the cushion I provide a band 10, extending entirely around the cushion and inclosing the space between the top and bottom covering. The edges of this
75 band are turned in, and between the upper and lower edges of the band 10 and the bottom and top covering of the cushion I provide the folded strips 11, forming the ribs shown in section in Figs. 3 and 4. The band
80 10 is provided in the part forming the rear side of the cushion with a series of perforations, as shown in Fig. 2, each having an eyelet 12, through which the air passes into the interior of the cushion. Upon the inner
85 surface of the band 10 I provide the flexible flap 13, secured at one side to the band 10 and extending down over the perforations provided therein.

When the cushion is not in use, the flap or
90 cover 13 assumes the position indicated by dotted lines in Fig. 4 and allows the air to pass into the cushion through the eyelets 12 and allows it to circulate freely through the
95 cushion.

When the cushion is compressed, the air within the cushion closes the flap 13, thereby preventing the escape of air through the perforations in the rear and forcing the same
100 up through the openings in the top of the cushion. Each movement of the person sitting in the chair will permit the air to pass

into the cushion through the perforations in the rear edge thereof, and a constant circulation of fresh air will thereby be maintained through the cushion, so that it is well adapted
 5 for use in warm weather or in warm rooms, as the seat cannot become heated, an objection which is common to the cushions now used in offices and public halls generally.

While I have shown and described a cushion particularly adapted to and of the size of
 10 an office-chair, I do not wish to limit my invention to the same, as the cushion or mattress in many forms may be applied to the upholstery of various articles of furniture, to
 15 use as a mattress, or in the upholstery of vehicles or railway-car seats.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

20 1. A spring and air cushion, comprising a suitable frame and a covering for the same, said cushion having a series of perforations in its upper surface and similar perforations in its edge, and means for closing the perfora-

tions or openings in the edge of said cushion, 25 thereby forcing air up through the perforations in the upper surface when the cushion is compressed, substantially as described.

2. A spring and air cushion, comprising a suitable frame, a covering for the top and 30 bottom of said frame, the part 8 forming the upper surface of the cushion and provided with a series of perforations leading to the interior of the same, the springs arranged within said cushion, the edge of said cushion 35 being provided on its side with a series of perforations, a flap 13 secured to the inner surface of said cushion above said perforations and adapted to close the same when said cushion is compressed, substantially as de- 40 scribed.

In testimony whereof I have hereunto set my hand this 11th day of May, A. D. 1895.

PETER FORSBERG.

In presence of—

C. G. HAWLEY,
 M. E. GOOLEY.